ANDREW LIANG

Software Engineer

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EXPERIENCE

Software Engineer
Belvedere Trading LLC
August 2019 – March 2020 | Chicago, IL

- Bolster profits by at least $500,000 through introduction of dynamic position calculation and representation in trading applications.
- Decrease trader downtime by automating algorithm setup & creation for new products.
- Simplify company strategies via maintenance and expansion of automated hedging systems.

Systems/Software Engineer
Northrop Grumman Corporation
June 2018 – August 2019 | Rolling Meadows, IL

- Shipped robust core observation and recording framework to both company employees and clients
- Provided most efficient version of defense capability to client by modeling product and optimizing its parameters
- Reduced learning curve for 50+ engineers on core company testing software library by automating documentation using Jenkins and Python

Full Stack Developer
Hack4Impact UIUC
February 2018 – May 2018 | Urbana-Champaign, IL

- Shipped an interactive map based web application using React, Redux, and Flask to the nonprofit organization Neighborhood News Bureau
- Bolstered client productivity by incorporating an intuitive copy-paste user interface
- Built all map-related endpoints for the RESTful API

PROJECTS

Trading Bot
March 2020 – Present

- Employ AI algorithm in Python (Jupyter) to analyze prevailing market conditions and make profitable trades
- Enforce risk management checks to minimize avoidable losses
- Prevent overfitting and ensure validity of model via rigorous backtesting tools

Lunar Lander
March 2020 – May 2020

- Solve the OpenAI Gym Lunar Lander environment using a Double Deep Q-Learning Agent with prioritized experience replay

PUBLICATIONS

Journal Articles
- Liang, A., S. Yau, and H. Zuo (2016). “A sharp estimate of positive integral points in 6-dimensional polyhedra and a sharp estimate of smooth numbers”. In: *Science China Mathematics* 59 (3), pp. 425–444.

SKILLS

AI | Machine Learning | Matplotlib | Numpy | Jupyter | Neural Networks | Simulation & Modeling | UNIX/Linux | Numerical Analysis | Git | Behave | Flask | React | Redux | Jenkins | .NET | WPF | Automation & Test

CERTIFICATIONS

Securities Industry Essentials | Series 57

LANGUAGES

Python | C++ | SQL | C# | Matlab | C | Java | JavaScript | HTML/CSS

English | Chinese | Spanish

RESEARCH

Mathematics
University of Illinois at Chicago
2010 – 2014

- Proved the Yau Geometric Conjecture to be true for all cases in six dimensions, producing an estimate for the Dickman-de Bruijn function
- Presented and defended research at the Dongrun-Yau Science Awards regional competition
- Published a fifty-page research paper to Science China Mathematics (Liang, Yau, and Zuo 2016)

EDUCATION

M.Sc., Computer Science
Georgia Institute of Technology
January 2019 – Present

- Dual Concentration in Machine Learning and Computational Perception & Robotics

B.Sc., Engineering Physics
University of Illinois at Urbana-Champaign
August 2014 – May 2018

- Dual Concentration in Computational and Theoretical Physics.